APPENDIX Q

DEPARTMENT OF THE ARMY, ASSISTANCE CHIEF OF STAFF FOR INSTALLATION MANAGEMENT MEMORANDUM SUBJECT: DEVELOPMENT OF ARMY POLICY AND PROGRAM FOR ECOSYSTEMS MANAGEMENT

DEPARTMENT OF THE ARMY
ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT
600 ARMY PENTAGON
WASHINGTON DC 20310-0600

REPLY TO
ATTENTION OF

DAIM-ED-N

29 JUN 1994

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: Development of Army Policy and Program for Ecosystem Management

1. References:

a. Report of the National Performance Review, entitled "From Red Tape to Results: Creating a Government that Works Better & Costs Less", by Vice President Al Gore, 7 Sep 93.

b. Memorandum from Deputy Under Secretary of Defense for Environmental Security to the Assistant Secretaries of the Services, 23 Mar 94; subject: Mojave-Sonoran Ecosystem Management Initiative.

c. Memorandum from Deputy Under Secretary of Defense for Environmental Security to the Assistant Secretary of the Army (I,L,&E), 8 Apr 94; subject: Executive Agent for Mojave Ecosystem Management Initiative

d. FY93 Defense Appropriations Bill (Public Law 102-172 and Senate Report 102-408), Legacy Resource Management Program, Establishment of a Biological Diversity Task Area.

e. US Army Environmental Strategy into the 21st Century, dated 1992.

2. Per the findings of the National Performance Review (Reference 1a), the White House Office on Environmental Policy established an Interagency Task Force to develop and implement cross-agency ecosystem management. This Task Force recently appointed DOD lead federal agent for the Mojave Ecosystem Management Initiative (Reference 1b). Subsequently, DOD appointed Army as Executive Agent (Reference 1c). Reference 1b establishes the goal of ecosystem management for DOD as "...to restore and maintain the health, sustainability, and biological diversity of ecosystems...." A complementary effort in the Legacy Resource Management Program (Reference 1d), has a task area to develop a biodiversity management strategy for DOD.

Additionally, Army recognizes that environmental protection is becoming increasingly important, as evidenced in The Army Plan and Army Environmental Strategy (Reference 1e). In particular, expectations are rapidly increasing for a proactive conservation program that is not based on crises and concerns.

3. This memorandum initiates a deliberate process by Army to determine and, subsequently, establish Army policy for ecosystem management per the objectives of the Conservation Pillar in the Army's Environmental Strategy and in concert with the objectives of the White House Task Force on Ecosystem Management. This policy development will include restoration and maintenance of biodiversity as an objective within ecosystem management. Although sustainment of ecosystem function and values will require an interagency approach, each agency will use different methods and intensities of management depending on the kinds of land uses being executed. Army's objective in ecosystem management will be to move from single species management to sustainment of functioning ecosystems.

4. An Army Ecosystem Management Board (AEMB) will be established to improve coordination (facilitate idea exchange and conflict resolution) among those offices responsible for conservation programs and those that impact upon the ecosystem through current land use practices. The AEMB will replace the Land Use Management Control Board (LUM-CB) and provide a broadened focus from strict land use management to full-spectrum ecosystem management. The AEMB will be an integrated body of ARSTAF, MACOM, FOA, and installation ecosystem managers that develops a comprehensive ecosystem management process that supports Federal ecosystem management objectives and the Army's Environmental and Installation Strategies.

5. Once the AEMB is fully established, the AEMB will be used to identify required authorities, policies and resources for ecosystem management. Actions of the AEMB will include:

a. Define information requirements for defining, evaluating, and managing ecosystems, including data collection standards and protocols, requirements for information management, and uses of this information in the decision support and planning processes. This action will place priority on existing capabilities and ongoing efforts by federal agencies (US Department of Agriculture-Soil Conservation Service and USDA-Agriculture Research Service, US Geological Survey, National Biological Survey, US Fish and Wildlife Service, Corps of Engineers and others).

b. Establish a comprehensive process to fully utilize all funding sources (Environmental, OMA, Mission, Legacy, SERDP, and Reimbursable) to "buy out" for installations, baseline data, other essential information and necessary tools, where lacking, in a systematic and prioritized manner.

c. Evaluate how existing ecosystem-related policy/guidance (such as AR 420-74, Natural Resource Management, and component parts of the Integrated Natural Resource Management Plan) is being used in the resourcing and decision-making process. This evaluation will include a determination of institutional knowledge at the installation, MACOM and HQDA levels, of Army ecosystems-- characteristics, conditions, trends and sustainability of resources to include water quality, soil stability, viability of native plant communities and habitat for wildlife.

6. In concert with the actions of the AEMB, identified in item 5, my office will task the Army Environmental Center (AEC) to evaluate and propose a plan to the AEMB for establishing an Army net-working and communications capability for the management of conservation information deemed essential by decision-makers for ecosystem management.

7. It is essential that the AEMB establish a linkage with the primary Army users (trainers, engineers and recreation managers), as well as with other federal agencies, to ensure that relevant components of ecosystem management policy can be merged into appropriate programs (ITAM, RMAT, master planning) for execution.

8. In the next few weeks, a draft charter for the Army Ecosystem Management Board will be sent for your review and comment. After concurrence on the draft, the first meeting of the AEMB will be held to initiate the actions discussed in item 5 of this memorandum.

9. For additional information on this subject, please contact my Associate Director for Conservation (Mr. Don Bandel), at (703) 696-8813 or FAX (703) 696-8821.

FOR THE ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT:

GERALD C. BROWN
Brigadier General, USA
Director, Environmental Programs

DAIM-ED-N
SUBJECT: Develop of Army Policy and Program for Ecosystem Management

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3000 DEFENSE PENTAGON
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08 AUG 1994

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(INSTALLATIONS, LOGISTICS, AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE NAVY
(INSTALLATIONS AND ENVIRONMENT)
ASSISTANT SECRETARY OF THE AIR FORCE
(MANPOWER, RESERVE AFFAIRS, INSTALLATIONS
AND ENVIRONMENT)

SUBJECT: Implementation of Ecosystem Management in the DoD

I want to ensure that ecosystem management becomes the basis for future management of DoD lands and waters. Ecosystem management is not only a smart way of doing business, it will blend multiple-use needs and provide a consistent framework to managing DoD installations, ensuring the integrity of the system remains intact. Ecosystem management of natural resources draws on a collaboratively developed vision of desired future ecosystem conditions that integrates ecological, economic, and social factors. It is a goal-driven approach to restoring and sustaining healthy ecosystems and their functions and values using the best science available. The goal is to maintain and improve the sustainability and native biological diversity of terrestrial and aquatic, including marine, ecosystems while supporting human needs, including the DoD mission.

Ecosystem management will include:

1. Ecological approach: The DoD will continue to shift its focus from protection of individual species to management of ecosystems.

2. Partnerships: The DoD will form partnerships to achieve shared goals. Ecosystems cross political boundaries, making the need for cooperation, coordination, and partnerships essential for managing ecosystems.

3. Participation: Public involvement, communication, and incorporation of public needs and desires into management decisions will be emphasized.

4. Information: The best available scientific and field-tested information will be used in making decisions and selecting the most appropriate technologies in management of natural resources.

5. Adaptive management: Resource managers will incrementally implement adaptive management techniques as they become known through the dynamic process of applying the best available commercial and scientific data.

Taking an ecological approach involves a greater understanding and recognition of interrelationships among components of the environment (including people) across the landscape and over time. On DoD installations, ecosystem management will be achieved by developing and implementing integrated natural resources management plans and ensuring they remain current. Information from the environmental impact analysis process and other sources will be integrated into these plans as appropriate. Goals must be defined through individual installation planning and, consistent with resource management needs and military missions requirements, ecosystem management must be broadly applied across the land base to achieve those desired goals. Such an approach will require a range of management practices, identification of projected outputs, monitoring to ensure success and improve knowledge, and a commitment from everyone involved to accomplish results.

The DoD is already actively involved with implementation of ecosystem management at some of its installations. These efforts are being significantly expanded by our active participation in the Interagency Ecosystem Management Task Force. The Task Force's activities include regional ecosystem management initiatives, one of which is the Ecosystem Management Team for the Mojave Desert, with DoD as the lead, in partnership with the Department of Interior.

I want you to give additional emphasis to the DoD-wide ecosystem management effort by implementing appropriate policies at all installations. Policy developed by the Services must be consistent with the principles of ecosystem management as outlined in the attachment and as directed by regulatory agencies. Please provide me a report on regional ecosystem management programs which you currently have underway by September 1, 1994. I will be requesting the status of your progress in implementing these ecosystem management principles by July 1, 1995.

If you require additional information, please contact Mr. Peter Boice at (703) 604-5707.

Sherri W. Goodman
Deputy Under Secretary of Defense
(Environmental Security)

Attachment

Department of Defense
Ecosystem Management Principles

Components of ecosystem management:

Ecosystem management is a goal-driven approach to environmental management that is at a scale compatible with natural processes; is cognizant of nature's time frames; recognizes social and economic viability within functioning ecosystems; and is realized through effective partnerships among private, local, state, tribal, and federal interests. Ecosystem management is a process that considers the environment as a complex system functioning as a whole, not as a collection of parts, and recognizes that people and their social and economic needs are a part of the whole.

Goal:

The goal of ecosystem management is to preserve, improve, and enhance ecosystem integrity. Over the long term, this approach will maintain and improve the sustainability and biological diversity of terrestrial and aquatic (including marine) ecosystems while supporting sustainable economies and communities.

Principles and guidelines:

1. Maintain and improve the sustainability and native biological diversity of ecosystems. Ecosystem management involves conducting installation programs and activities in a manner that recognizes, restores, and sustains the composition, structure, and function of natural communities that comprise ecosystems, in order to ensure their sustainability and biological diversity at landscape and other relevant ecological scales.

2. Administer with consideration of ecological units and time frames. Ecosystem management requires the consideration of effects of installation programs and actions at spatial and temporal ecological scales that are relevant to natural processes. A larger geographic view and more appropriate ecological time frames should assist in analysis of cumulative effects on ecosystems that may not be apparent with smaller and shorter scales. Consideration of sustainability under long-term environmental threats, such as climate change, is also important.

3. Support sustainable human activities. People and their social, economic, and national security needs are an integral part of ecological systems, and management of ecosystems depends upon sensitivity to these issues. Actions should support sustainable development by meeting the needs of the present without compromising the ability of future generations to meet their own needs.

4. Develop a vision of ecosystem health. All interested parties (federal, state, tribal, and local governments, non-governmental organizations, private organizations, and the public) will collaborate in developing a vision of what constitutes desirable future ecosystem conditions concerning sustainable health and biodiversity. Existing social and economic conditions should be factored into the vision, as well as methods in which all parties can contribute to the achievement of desirable ecosystem dynamics.

5. Develop priorities and reconcile conflicts. Successful approaches should include mechanisms for establishing priorities among the objectives and for conflict resolution during both the selection of the ecosystem management objectives and the methods for meeting these objectives. Identifying local installation objectives and urban development trends are especially important to determine compatibility with ecosystem objectives. Regional workshops should be convened periodically to ensure that efforts are focused and coordinated.

6. Develop coordinated approaches to work toward ecosystem health. Ecosystems rarely coincide with ownership and political boundaries so cooperation across ownerships is an important component of ecosystem-based management. To develop the collaborative approach necessary for successful ecosystem management, installations should:

- develop a detailed ecosystem management implementation strategy for installation lands and other programs based on the vision developed above and these principles and guidelines;
- collaborate with state, tribal, and local governments, non-government entities, private landowners, and the public in order to achieve the desired future conditions for the ecosystem;
- inform interested individuals and nearby communities of our ecosystem management practices and actively solicit their input and suggestions;
- incorporate ecosystem management goals into strategic, financial, and program planning and design budgets to meet the goals and objectives of the ecosystem management implementation strategy; and
- seek to prevent undesirable duplication of effort, minimize inconsistencies, and create efficiencies in programs affecting ecosystems.

7. Rely on the best science available. Ecosystem management is based on scientific understanding of ecosystem composition, structure, and function.

8. Use benchmarks to monitor and evaluate outcomes. Accountability measurements are vital to effective ecosystem management. Implementation strategies should include specific, measurable objectives and criteria with which to evaluate activities in the ecosystem. Clear, specific accountability systems, including those in appropriate budget structures, should be developed to ensure timely, effective implementation of the strategies. Efficiencies gained through cooperation and streamlining should be included in the objectives.

9. Use adaptive management. Ecosystems are recognized as open, changing, complex systems. Management practices should be flexible to accommodate the evolution of scientific understanding of ecosystems. Based on periodic reviews of implementation, adjustments to the standards and guidelines applicable to management activities affecting the ecosystem should be made.

10. Implement through installation plans and programs. An ecosystem's desired range of future conditions should be achieved through linkages and subsequent adjustments and implementation of DoD plans and activities.

ARMY ENVIRONMENTAL STRATEGY ACTION PLAN (ASAP)
CONSERVATION PILLAR

ECOSYSTEM MANAGEMENT PROGRAM (new)

1. **STATUTES:**

   a. Clean Water Act of 1987 (ongoing reauthorization)

   b. Endangered Species Act of 1973 (ongoing reauthorization)

   c. National Environmental Policy Act of 1969 (NEPA)

   d. The Sikes Act of 1962 (ongoing reauthorization)

   e. Noise Control Act of 1972

   f. National Historic Preservation Act of 1966

   g. Federal Noxious Weed Act of 1974

2. **GOAL:**

a. DOD GOAL: Per memorandum from the Deputy Under Secretary of Defense to the Assistant Secretaries of the Services (23 Mar 94), "The goal of ecosystem management is to restore and maintain the health, sustainability, and biological diversity of ecosystems while supporting sustainable economies and communities. For the Department of Defense, this means protecting the wealth and diversity of species and habitats found on DoD lands while at the same time managing these lands to ensure our continued ability to conduct our military mission."

b. ARMY GOAL: Army supports and amplifies the DOD goal. Ecosystem management is a recognition and awareness of the linkage and interconnections among all elements of natural systems, with a knowledge and readiness to minimize disruptions to these resources caused by human decisions and actions. An ecologically literate Army will know the effects of land uses on deforestation, desertification, soil loss, biodiversity and water quality, and thus, be capable of sustaining the resources and the land uses.

c. ACTION PLAN GOAL: The goal of this Action Plan is to manage surface water, topsoil and native biological (vegetation and wildlife) resources for sustained availability and quality under a regime of Army land uses (training, testing, production, storage, construction, and recreation). This Action Plan does not directly manage installation air or natural resources on cantonment areas. However, the effects of cantonment area management and air quality on the soil, water, and biological resources of the unimproved acres is included.

3. **POLICIES:** (new)

a. The proposed policies that follow are a result of an interpretation by DAIM-ED-N of relevant Statutes identified in item 1 of this Plan (singularly and collectively) for the purpose of establishing Army's course of action to minimize adverse changes to ecosystem resources while maximizing land use opportunities. These policies are the foundation upon which the Major Program Actions of this Action Plan are based (item 8).

b. Proposed broad policies are:

(1) In coordination with other federal agencies, characterize the essential component parts of ecosystems; i.e., water, soils, species and ecological units within a landscape and establish linkages among the component parts.

(2) Describe the status and health of ecosystems on Army lands in terms of water quality, soil stability, and maintenance of native species and natural communities.

(3) Through the planning process, describe individual and cumulative effects of Army land uses on ecosystems and present decision-makers with alternatives (spatial and temporal) that minimize impacts while meeting ecosystem objectives and mission requirements.

(4) Periodically monitor and evaluate ecosystem health, and establish benchmarks of "progress" and "acceptability". [Examples include: "progress"--identification of highly erodible soils, preparation of erosion and sediment control plans, and monitor resource status within last 5 years; "acceptability"--native species being maintained, plant communities sustained, soils stable, water quality acceptable, etc].

4. **EXISTING INSTRUCTIONS AND GUIDANCE TO THE FIELD:**

a. This is a new action plan. The existing guidance is per memorandum, dated 29 Jun 94, from Army's Director of Environmental Programs initiating Army's process for development of policy and program for Ecosystem Management.

b. Proposed instructions and guidance include:

(1) Revision of AR 200-3 (natural Resources -- Land, Forest, and Wildlife Management) to include requirements for ecosystem management.

(2) Inclusion of ecosystem management principles into Training Circular TC 25-1, Training Land and AR 210-21 (Army Ranges and Training Land Program).

(3) Inclusion of ecosystem management principles into AR 210-20 (Master Planning for Army Installations) and the Army Installation Management Action Plan.

5. **ONGOING R&D ACTIVITIES:**

a. Currently, Army does not have a singular, integrated approach to R&D for ecosystem management. Funding sources include SERDP, EQT, Legacy and reimbursables. In order to achieve the defined goal of ecosystem management (item 2) for Army, DAIM-ED-N through the Army Ecosystem Management Board (AEMB), will provide oversight of applied R&D for ecosystem management from all funding sources. This coordination is essential to efficiently use limited funds and ensure that R&D efforts are focused on Army priority requirements.

b. Per funded proposal from DOD (Legacy Technology funds), entitled "Information Standards for Conservation Decision-Making", Army will identify ecosystem technologies and business practices for Army and DOD.

c. Ongoing R&D--A comprehensive evaluation of Army's ecosystem management R&D by the AEMB will be conducted in FY95.

d. Achieving some of the identified Major Program Actions (item 8) will require applied R&D. Requirements will be articulated in FY95 along with the review in "c" above.

6. **MAJOR PROGRAM MANAGEMENT GOALS:**

a. Ensure Army can continue to meet federal stewardship requirements in the context of Army's purposes for having land.

(1). **maintain surface water quality**; i.e., ensure that turbidity and sediment levels, as created by non-point sources, do not degrade aquatic biota and habitat or exceed federal and state water quality standards.

(2). **maintain soil productivity**; i.e., keep soil erosion within acceptable limits, restore and stabilize degraded soils and maintain long-term productivity.

(3). **maintain biological diversity**; i.e., maintain and re-establish native plant communities and associated native animal species.

7. **PROGRAM MANAGEMENT APPROACH:**

a. FOR DOD: Army (DAIM-ED-N) is executive agent for DOD in the Mojave Desert Ecosystem Management Initiative. A Memorandum of Agreement between DOD and Department of Interior to define roles and responsibilities is being negotiated at this time.

b. FOR ARMY: The Army Ecosystem Management Board (AEMB), whose membership is drawn from HQDA, MACOMs, FOAs, and installations, will oversee the ecosystem management program. The AEMB will be chartered for its activities by Army (Assistant Chief of Staff for Installation Management). The AEMB members are:

Executive Council

Principal Members

Mr. Don Bandel	DAIM-ED-N	(703) 696-8813
Mr. Lawrence Cole	AMXEN	(309) 782-4531
COL Van Epps	FCEN	(404) 669-5412
COL Philip Spence	NGB-ARE	(703) 756-5770
Mr. Philip Prisco	ATBO-L	(804) 727-3300
COL Leonard Hassel	AEAEN	011-49-6221-57-7328
Mr. Sokoloski	APEN	(808) 438-1025
COL Boone	AFRC	(404) 629-8264

Advisory Members

Mr. Michael Cain	DAIM-ED-C	(703) 696-8813
Mr. Stan Shelton	DAIM-FDP	(703) 694-3986
COL Miller	DAMO-TRS	(703) 614-6814
Dr. Don Leverenz	CERD-M	(202) 272-1849
Dr. Dave Guzewich	SFIM-AEC-EC	(410) 671-1210
COL McGowan	DAJA-EL	(703) 696-1230
COL Ozolek	ATIC-CTS	(804) 878-4858

Work Group

Dr. Vic Diersing	DAIM-ED-N	(703) 696-8813
Mr. Phil Pierce	DAIM-ED-N	(703) 696-8813
Mr. Don Cole	DAIM-ED-N	(703) 696-8813
Mr. Larry Hirai	APEN-EV	(808) 438-8997
Mr. Bill Woodson	AMXEN-M	(309) 782-4062
Mr. Bob Anderson	ATBO-SE	(804) 727-2077
Dr. Mark Imley	NGB-ARE	(703) 607-7989
Mr. Stuart Cannon	AFPI-ENE	(404) 669-5762
Hr. Wolfgang Grimm	AEAEN	011-49-6221-57-7699
Mr. Scott Belfit	SFIM-AEC-EC-N	(410) 671-6831

Task Area Committees

Includes installation managers, subject matter experts, R&D personnel, and execution support personnel (AEC).

c. The program management approach will require that various agencies (including DOD) and Army offices (primarily acting through the AEMB) work in concert to achieve the objectives of this Action Plan. Expected support and interaction include the following.

(1) Inter-agency:

(a) Department of Interior:

- Establish a Memorandum of Agreement (MOA) between DOD and DOI as pre-requisite for defining roles and responsibilities of their respective Bureaus and our Departments in execution of coordinated programs including the Mojave Desert Ecosystem Management Initiative.

- National Biological Survey (NBS)--Ensure that Army's gathering of biological data is consistent with the protocols and standards of NBS. Leverage the efforts of NBS, by securing Army/DOD funds from Legacy, SERDP, and other funding sources. Ensure that R&D conducted by Corps laboratories is fully integrated with the objectives of NBS. Identify information NBS will require of Army to meet reporting requirements.

- Geological Survey (GS)-- Ensure that the mapping procedures and surface water monitoring procedures, for non-point sources, are fully utilized and consistent with USGS standards.

(b) Department of Agriculture:

- Soil Conservation Service (SCS) -- Coordinate with and request evaluation from SCS (including ARS) on the technical validity and value of Army's methods of estimating soil erosion on Army installations. Adjust Army methods and associated policy per input from SCS.

- Agriculture Research Service and Plant Material Centers (ARS, PMC)--Ensure that revegetation initiatives (execution and R&D) are consistent with and fully utilize the expertise within ARS and PMC.

(2) Intra-agency:

(a) Department of Defense:

- Deputy Under Secretary of Defense for Research & Acquisition Technology (DUSD-R&AT)--DOD directive 4700.4 (24 Jan 89) states that the Director, Defense Research and Engineering, through the DUSD (R&AT) shall conduct appropriate research, development, tests and evaluations to support integrated natural resources management programs. DAIM-ED-N (with support from AEMB) will provide an annual summary report on the effectiveness of the R&D program in support of ecosystem management. This report will be submitted through DASA (ESOH) to DUSD (R&AT).

- Deputy Under Secretary of Defense for Environmental Security (DUSD-ES) --On an annual basis, DAIM-ED-N, with support from the AEMB, will, through the SAILE-ESOH, provide DUSD-ES a summary report on the effectiveness of DOD's ecosystem management program with suggestions for improvement.

(b) Army:

- Deputy Assistant Secretary of the Army for Environment, Safety, & Occupational Health (DASA-ESOH) -- Request that the DASA-ESOH (or his designee) review the draft Action Plan to ensure the Plan is consistent with Army's long-term policy objectives for ecosystem management.

- Assistant Chief of Staff for Installation Management (ACSIM) -- Request that ACSIM (or his designee) review the draft Action Plan and edit before final submittal of Plan for execution by Army.

- Associate Director for Conservation -- Request that the Associate Director of Conservation ensure this Action Plan is fully complementary to, and not duplicatory of, other relevant Actions Plans in DAIM-ED-N.

- DAMO-TRS--Establish an understanding that DCSOPS is responsible for execution of the ITAM program that meets DCSOPS operational requirements and ecosystem management requirements of DAIM-ED-N. Coordinate closely with DAMO-TRS to incorporate the principles of ecosystem management into mission operations.

- DAIM-FDP--Establish an understanding that DAIM-FDP is responsible for execution of the RMAT program that meets DAIM-FDP operational requirements and ecosystem management requirements of DAIM-ED-N. Coordinate closely with DAIM-FDP to develop policy and program for ecosystem management, with an objective to incorporate the principles of ecosystem management into installation management.

- MACOMS--Establish an understanding that the MACOMS, as Army's principal customer, are responsible for execution of the Army's ecosystem management program on their respective installations.

- AEC--Establish an understanding that AEC is responsible for supporting the execution of ACSIM and MACOM programs that meets ODEP policies, plans and programs. On an annual basis, DAIM-ED-N and MACOMS will review the progress of AEC in executing the taskings of HQDA and MACOMS in support of the ecosystem management program.

- CERD-Establish an understanding that CERD is responsible for execution of the applied R&D program (SERDP and EQT) that meets the requirements established by ODEP, MACOMs and installations. On an annual basis, DAIM-ED-N and MACOMS will review the progress of CERD in support of the ecosystem management program.

8. **MAJOR PROGRAM ACTIONS:**

a. Draft and staff Ecosystem Management policy for Army.--Ensure polices are consistent with lead federal agencies and Army land use requirements.

b. Draft and staff Ecosystem Management program for Army.--Ensure program is consistent from federal and Army policies and meets land use requirements.

(1). Define the Conservation baseline.--Identify information required as pre-requisite for planning, management and sustained use of natural resources. As reference, see the three management goals of ecosystem management (item 6). This will include an assessment of what's being managed, determination of resource conditions, and projection of long-term resource trends based on established and future land uses.

(2). Develop standard scopes of work for data collection.--Identify and/or develop example scopes of work for gathering the required information identified above that are consistent with and/or "blessed" by the lead or regulatory agent. Examples include, T&E species, plant communities, floral survey, faunal surveys, identification of highly erodible soils, estimating soil loss by wind and water, determination of water sedimentation rates and level of turbidity, etc.

(3). For installations, establish a systematic and prioritized process to "buy out" essential baseline information as a pre-requisite for planning and informed management.--Establish a process to "buy out", in priority order, all essential information/planning needs using all funding sources available (VENC, RPMA, TATM, Legacy [Army and DOD], SERDP, EQT, and reimbursable). It should be noted that a "buy out" process will necessarily require tracking of work accomplished as well as effort remaining for each installation, MACOM and Army-wide.

(4). Identify requirements for automated systems and develop a plan for networking/communication.--Identify requirements for automated systems. Develop a plan for managing and communicating essential conservation information (capture, storage, manipulation, retrieval, and display) within Army (all levels), and from Army to DOD and others (congress, USFWS, NBS, SCS, etc).

(5). Define content and develop standard format for preparing Integrated Natural Resource Management Plans.--Through the AEMB, establish an Army work group (assistance from others) to develop and recommend a standard format for Integrated Plans that fully incorporates resource inventory data, resource conditions, land rehabilitation requirements, long-term budget needs, limitations to operations, and options to resolve conflicts. Also, identify automated software capabilities for rapid summary of "essential information" for use by installations managers in the 5-year update of Plans.

(6). Identify requirements for monitoring (kinds and periodicity) natural resource trends.--Evaluate and determine natural resource attributes that should be periodically monitored to provide an installation-wide assessment of the status and changes of the Army natural resource base as it relates to long-term accomplishment of Federal conservation objectives and mission requirements. This assessment must allow for comparison of installations and summary "roll-ups" by MACOM, region, type of land use, DOD, etc. Note, the updating of Integrated Plans must be coordinated with the 5-year summary of resource trends.

9. MANAGEMENT INDICATORS:

a. Army policy developed that fully defines minimum essential ecosystem baseline data as pre-requisite for land use planning and management (GREEN, AMBER, RED).

b. Availability of standard Scopes of Work for gathering required ecological baseline information that is consistent with and/or "blessed" by the lead or regulatory agency (GREEN, AMBER, RED?).

c. Establishment of a singular, systematic and prioritized process to "buy out" essential baseline information as pre-requisite for planning and informed management (GREEN, AMBER, RED).

d. Percentage of installations having completed gathering of minimum natural resources data as pre-requisite for informed decision-making (GREEN, AMBER, RED?).

e. Percentage of installations having monitored resource trends during the past three years (67-100% GREEN, 34-66% AMBER, 0-33% RED).

f. Percentage of installations having current Integrated Natural Resource Management Plans based on completed resource inventory and evaluation of resource trends (67-100% GREEN, 34-66% AMBER; 0-33% RED).

10. **ISSUES AND CONCERNS:**

a. Army experiences costly planning errors from lack of information on ecosystem resources and status--Army is unable to quantify what is being managed, unable to monitor changing conditions of ecosystems, unable to estimate total land area requirements for resource sustainment and mission accomplishment, and risks opportunities for long-term mission execution via land degradation and non-compliance.

b. Lack of professional land management staff at installations to receive and integrate ecosystem objectives with land use activities.

c. Increasing environmental laws and enforcement, placing constraints on land use.

d. Increasing use and impacts on CONUS installations.

e. Inability to focus applied R&D efforts (SERDP, EQT, Legacy Technology) on Army's needs.

Vic Diersing, DAIM-ED-N/(703) 696-8813